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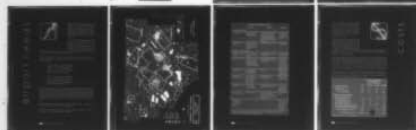
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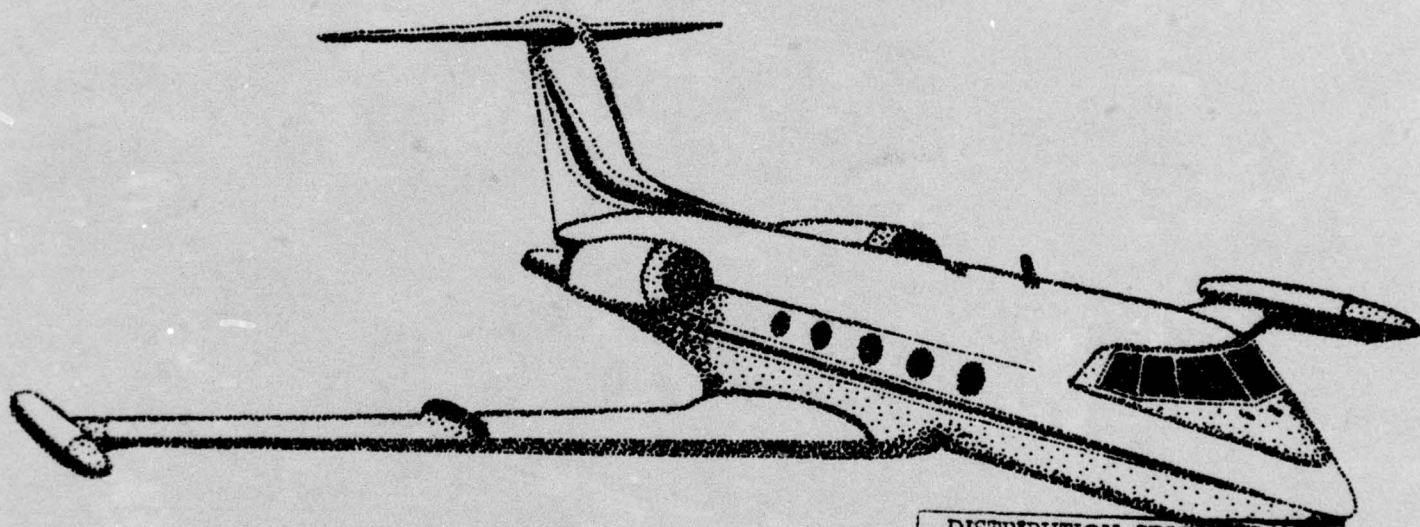


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summary

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This project has been funded in part by the North Carolina Department of Transportation and by the Federal Aviation Administration under the Planning Grant Program, as provided in the Airport and Airway Development Act of 1970.

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16. Abstracts The airport system plan summary provides a background of the <u>Piedmont Triad Regional Airport System Study</u> and states its objectives. A description of the region follows with its present aviation facilities. Growth in general aviation activities is forecast and the airport expansion needs are calculated. Major development needs and costs are arranged in tables.			13. Type of Report & Period Covered Summary Airport Plan, 1976-1995	
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**PIEDMONT TRIAD
AIRPORT SYSTEM PLAN.
SUMMARY.**

PIEDMONT TRIAD COUNCIL OF GOVERNMENTS

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Greensboro, North Carolina 27407

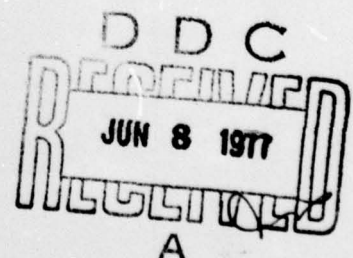
② Rept. for 1976-1975.

③ January 1977

④ 13p.

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FOREWARD

This is a summary of a comprehensive Piedmont Triad Regional Airport System Study prepared for the Council of Governments.

The Piedmont Triad Council of Governments (PTCOG) is the official regional planning agency for North Carolina Multi-County Planning Region G. Local governments are brought together in the Triad Region in a cooperative approach to address area-wide matters and concerns through the PTCOG program. Supported with local, State and Federal funds, the Council of Governments carries out its duties with participation from citizens of the region. Elected officials of member counties, cities and towns serve as delegates to the Council (see inside back cover). The PTCOG Charter

contains a mandate "to develop and formalize policy recommendations concerning matters having area-wide significance." The development of this Regional Airport System Plan is a direct response to this mandate.

The study was a two-year project encompassing more than 50 active airfields over an 11-county area; consequently, this summary cannot include all the technical details and methodology used to develop the Plan. It does, however, identify the significant findings of the study, including future airport expansion needs of the region.

Copies of the detailed technical volume, *Regional Airport System Plan*, are available for review at the Piedmont Triad Council of Governments.

PIEDMONT TRIAD COUNCIL OF GOVERNMENTS

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2120 Pinacraft Road
Greensboro, North Carolina 27407
Telephone: 919/294-4950



Lindsay W. Cox, Executive Director

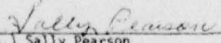
January 13, 1977

TO WHOM IT MAY CONCERN:

This is to certify that the following motion is a true and accurate recording of the minutes taken at the Piedmont Triad Council of Governments' Meeting held on January 12, 1977:

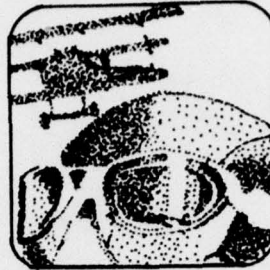
"Motion was made by Commissioner Bert Hall, seconded by Commissioner Hauser and unanimously approved that the Piedmont Triad Council of Governments go on record as approving the Regional Airport System Plan for Region G, and to submit copies of this plan to the State of North Carolina and the Federal Aviation Administration as the planning Region's input to the State Airport System Plan.

Signed:


(Mrs.) Sally Pearson
Administrative Assistant
Piedmont Triad Council of Governments

In conjunction with a statewide effort to develop a comprehensive airport system for the State of North Carolina, this regional plan has been developed to use certain state-generated data and to be incorporated into the statewide plan. This report covers the aviation systems plan for the Piedmont Triad Region (Region G), an area encompassing 11 counties:

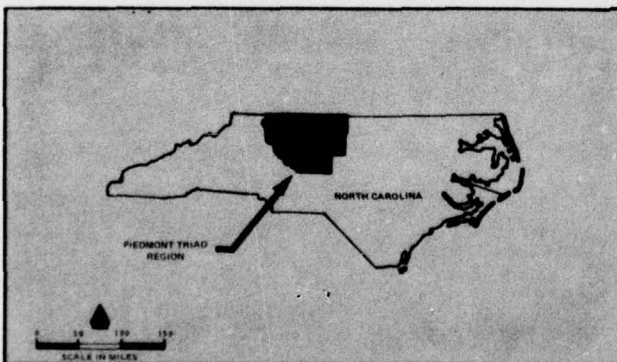
Alamance	Randolph
Caswell	Rockingham
Davidson	Stokes
Davie	Surry
Forsyth	Yadkin
Guilford	



The primary objectives of this study were to:

1. Prepare a plan which schedules an orderly and timely development of a system of airports adequate to meet the existing and projected air transportation needs within the Piedmont Triad Region.
2. Integrate the aviation planning with planning for other transportation modes in order to develop true multi-modal transportation plans.
3. Coordinate air transportation planning with comprehensive regional planning and provide aviation facilities with the minimum impairment of the environment.

The plan represents the planning region's input to the State Airport System Plan, and as such indicates those airports which are eligible for state grants for the construction of new airport facilities. Furthermore, the State Plan is being recommended to the Federal Aviation Administration for incorporation into the National Airport System Plan (NASP). Airports included in the NASP are eligible for federal funding for capital improvements and master planning study grants.



The plan is a product of the concentrated analysis of aviation within the region from a systems standpoint. Accordingly, the plan considers air carrier activity (passenger service by scheduled air carriers as well as flights devoted solely to cargo) and general aviation

(characterized by commuter service, business flying and private aviation). The plan identifies the role of each existing and proposed airport in the system and provides recommendations for the improvements required to meet future aviation needs. It encompasses a 20-year period from 1976 to 1995 and is described in terms of short (1976 to 1980), intermediate (1981 to 1985), and long-range (1986 to 1995) time periods.



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background

the region



The Piedmont Triad Region is located in north-central North Carolina, within the foothills of the Appalachian Mountains. The region is characterized by rolling terrain covered by deciduous trees and grassy meadows. This 5,443 square-mile region is the home for more than one million people, or about 20 percent of the population of the state.

The economy of the Piedmont Triad Region is founded primarily on the manufacture of consumer and industrial goods, much of which is heavily dependent upon the region's air transportation system. The area is

recognized for its production of furniture, textiles and clothing, tobacco products, and electrical machinery. The names of cities within the region — Burlington, Thomasville, Winston-Salem — reflect the brand names of some of these products.

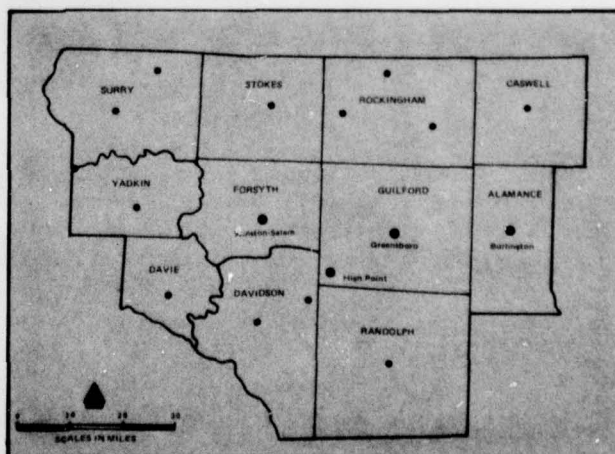
The present 11-county airport system contains over 50 active airfields. Two of these, the Greensboro/High Point/Winston-Salem Regional Airport and Smith Reynolds Airport at Winston-Salem, offer commercial passenger service. The majority of corporate and pleasure flying is concentrated at about 15 general aviation airports. The remaining airfields in the region are mostly unimproved turf landing strips, many being closed to the public. Six general aviation airports are owned or operated by public agencies.

Year	Passengers	Enplaned Passengers Per Capita
1950	43,500	.06
1960	125,800	.15
1970	417,400	.42
1974	543,900	.51

Flying Activity	Percent of Flying Hours
Business/Executive	46%
Pleasure	27%
Rental/Instruction/Taxi/Other	27%

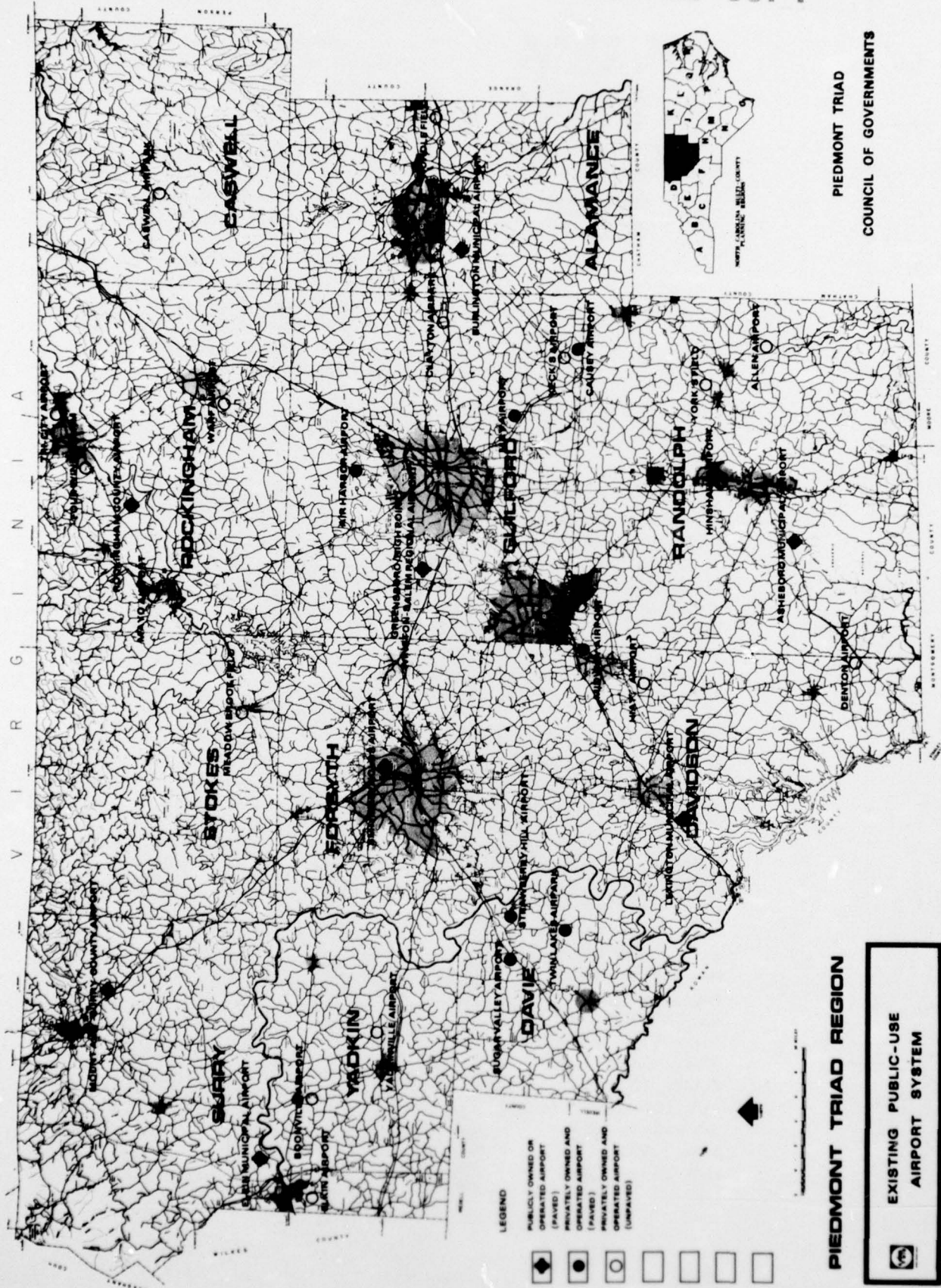
Over 500,000 enplaning air passengers are now carried annually in scheduled service through the two air carrier airports; the traffic-generating capability of the region has demonstrated a steady growth over the last 25 years. Air cargo (freight, express and mail) in the region currently totals 7,000 tons annually. About 30 percent is mail.

There are presently about 750 general aviation aircraft within the region, flying nearly 500,000 take-offs and landings a year. General aviation aircraft ownership is 7.3 per 10,000 population, slightly above the 7.2 U.S. average. Although the majority of aircraft in the region are used primarily for pleasure, more flying hours are logged for business or executive activities.



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for ecasts



Forecasts prepared by the North Carolina Department of Transportation indicate that passenger originations (persons beginning their air trips in the region) will increase to 1.2 million in 20 years, an increase of over two and a half times. Because of larger aircraft expected to be used in the future, the number of take-offs and landings will increase by 20 percent by 1995.

Cargo handled by air through airports in the region is forecast to be 42,000 tons in 20 years, an average of approximately two tons per airline departure. Air cargo, for the most part, will be carried as "belly cargo" on passenger flights.

The Regional Airport will continue its role as the major carrier airport in the region, serving about 90 percent of the passenger enplanements and air cargo in the 11-county region.

The number of general aviation aircraft based in the region is expected to grow to 1,122 by 1995, giving the region more home-based aircraft than any other North Carolina region. Currently about 84 percent of the region's aircraft are single-engine piston aircraft; and four percent are turbine powered. In keeping with the regional and national trends, it is anticipated that heavier, twin-engine aircraft will continue to increase their percentage of the total fleet size. By 1995, multi-engine

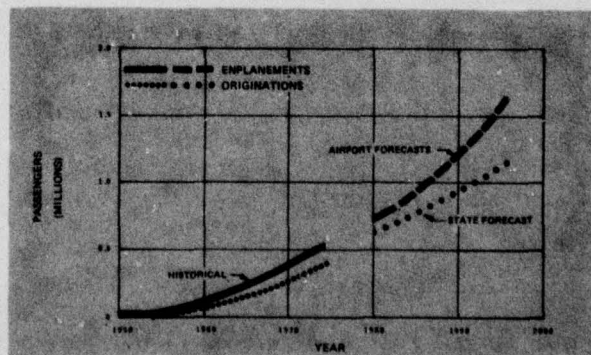
piston aircraft are forecast to increase to 18 percent of the total, with turbine aircraft increasing to eight percent, based on independent projections made in the regional study.

At an average rate of 700 operations per based aircraft, general aviation operations in the region will grow to over 780,000 in 1995.

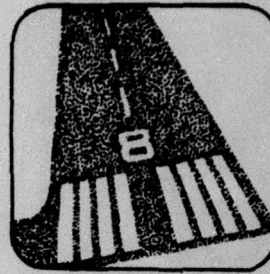
Year	Forecast Air Passenger Operations
1974	37,400
1980	39,970
1985	41,096
1990	41,124
1995	45,444

Year	Forecast General Aviation Operations
1980	611,600
1985	675,200
1990	737,500
1995	784,200

The most rapid growth in general aviation activity will take place in the metropolitan corridor (Burlington, Greensboro, Winston-Salem, High Point, Thomasville and Lexington). In this area, demand for larger, corporate aircraft will be the greatest.



Master plans for both air carrier airports have provisions for expansion of runway/taxiway systems and terminal facilities. At the Regional Airport, the plans call for new terminal facilities located across the runway system from the present location, and at Smith Reynolds, the plans call for expansion of the terminal building to meet forecasts developed in the master plan reports. The Regional Airport is also scheduled to build a new runway to accommodate expected traffic increases. A connecting taxiway network will link the new Runway 5L/23R with the existing system. Expanded cargo facilities are also planned. With these scheduled improvements, all passenger demands can be adequately served over the next 20 years.



Today only 52 percent of the general aviation aircraft in the region are based at publicly owned or operated facilities. The remainder are based at a number of privately owned fields, most of which are open to the public. It is possible that a number of these privately owned airports may remain active through 1995 — such as Meadow Brook Field, May Airport, Causey Airport, Hiatt Airport, Sugar Valley Airport, Strawberry Hill Airport and Twin Lakes Airpark. Together these airports could accommodate over 300 based aircraft and, with the existing public airports, could handle all general aviation activity except business jets and other large aircraft in the Lexington-Thomasville area.

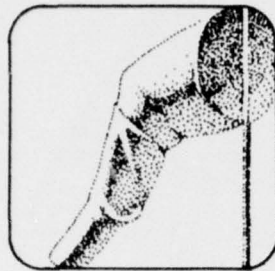
Airport	Capacity (Operations Per Year)	
	1975	1995
Ashboro Municipal Airport	130,000	140,000
Burlington Municipal Airport	140,000	180,000
Elkin Municipal Airport	110,000	135,000
Groeberson/High Point		
Winston-Salem Regional Airport	250,000	400,000
Lexington Municipal Airport	130,000	140,000
Mc Airy-Berry County Airport	80,000	130,000
Buckingham County Airport	120,000	140,000
Smith Reynolds Airport	140,000	180,000

If most or all private airports were to close, approximately 18 percent of the general aviation demand could not be satisfied. Businesses that depend on flying would tend to locate in areas more accessible by general aviation, and pleasure and instructional flying would decrease.

A rule of thumb adopted by the State Department of Transportation states that for calculating airport expansion needs, the projected activity should not exceed 80 percent of its capacity. This allows adequate time for new facilities to be developed before an airport reaches capacity. Operations at an airport can, and often do, meet or exceed its capacity. However, this can happen only at the expense of increased delays of individual aircraft arrivals and departures, especially at peak periods.



air port needs



Adequate general aviation facilities are essential to a thriving corporate and business community. Currently over 45 major employers in the Piedmont Triad Region — employing nearly 40,000 persons — regularly use local general aviation facilities, and most of these employers base one or more aircraft in the region.

To satisfy the demand for growing general aviation activity anticipated in the Lexington-Thomasville area, a new business-jet general aviation airport must be operational by 1985. Site acquisition and rezoning should be accomplished over the

next five years. Location in the general area of eastern Davidson County, midway between Lexington and Thomasville, is recommended.

If a substantial number of private airports were closed to the public by 1995, either or both of the following new public airports could be needed in addition to the new business-jet airport:

1. A reliever airport for Smith Reynolds Airport, which would provide additional capacity for the Winston-Salem area, located in eastern Yadkin, northeastern Davie, or western Forsyth County.
2. A reliever airport for the Regional Airport, which would serve the Greensboro-High Point area, located in eastern Guilford, southern Rockingham, or northern Randolph County.

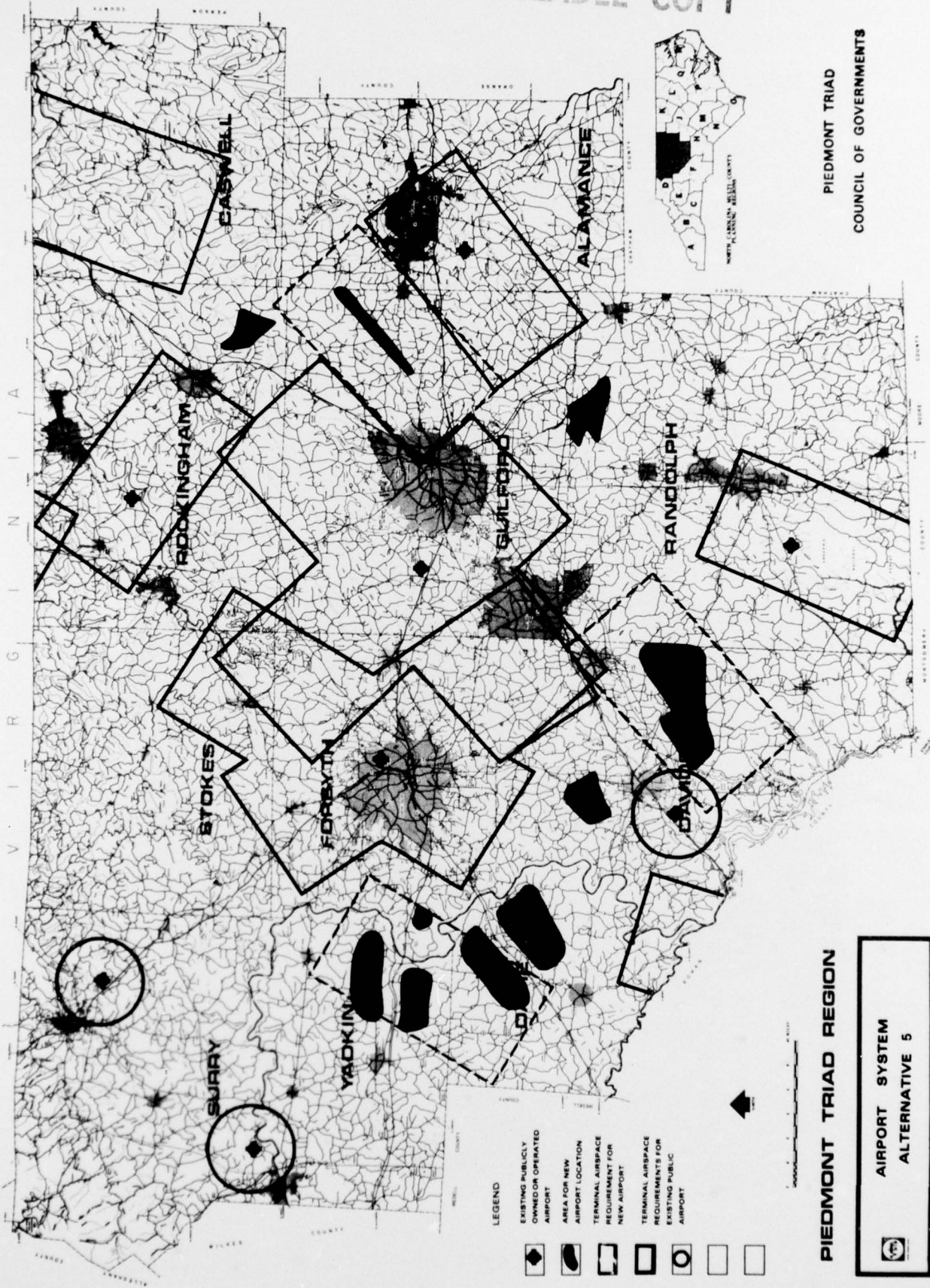
Because numerous sites are presently available west of Winston-Salem, land acquisition for the Winston-Salem contingency airport can be postponed for at least five years. The need for an eastern Guilford County site is marginal (even assuming closure of private airports). Although there are a limited number of acceptable airport sites (due to airspace constraints, urbanization and terrain) in the Greensboro area, land acquisition for that airport should be delayed several years to allow for a re-evaluation of the need for the airport.

Other public general aviation airports will require some expansion — primarily new hangars, aircraft aprons, runway extensions and taxiways.

The greatest airport expansion needs of the region, however, will occur at the two air carrier airports — particularly at the Regional Airport.



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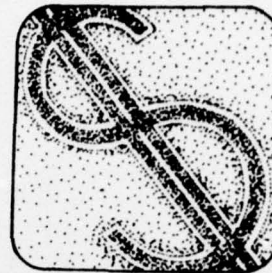
MAJOR DEVELOPMENT NEEDS

	1976-1980	1981-1985	1986-1995
AIR CARRIER AIRPORT			
Regional Airport	Aircraft aprons, new terminal building, approach systems	Land acquisition, extension of northwest — southeast runway, new northeast-southwest runway, aircraft aprons, terminal expansion, parking and access, approach systems	Aircraft aprons, terminal expansion, parking and access, approach systems
Smith Reynolds Airport	Land acquisition, extension of northeast-southwest runway, aircraft aprons, landing aids	Land acquisition, new taxiway	Terminal area improvements
GENERAL AVIATION AIRPORT			
Asheboro Municipal Airport	Land acquisition, aircraft aprons, fencing, VASI	Parallel taxiway, hangars, taxiway lighting	Hangars, administration building
Burlington Municipal Airport	Land acquisition, extension of northeast-southwest runway, parallel taxiways, aircraft aprons, hangars, airfield lighting, VASI	Land acquisition, fencing, parallel taxiways, aircraft aprons, hangars, VASI	Extension of northeast-southwest runway, aircraft aprons, hangars, administration building, approach system, airfield lighting
Elkin Municipal Airport	Land acquisition, fencing, hangars, airfield lighting, VASI	Hangars	Aircraft aprons, hangars, administration building, airfield lighting
Mt. Airy-Surry County Airport	Land acquisition, runway extension, fencing, aircraft aprons, hangars, airfield lighting, VASI	Parallel taxiway, aircraft aprons, hangars	Aircraft aprons, hangars, administration building
Rockingham County Airport	Fencing, aircraft aprons, hangars, access and parking	Parallel taxiway, aircraft aprons, hangars, airfield lighting	Parallel taxiway, aircraft aprons, hangars, administration building, airfield lighting
New Lexington-Thomasville Airport	Land acquisition	Primary and secondary runway, taxiways, aircraft aprons, fencing, hangars, administration building, access and parking, landing aids	Aircraft aprons, hangars
Potential New Greensboro Area and Winston-Salem Area Reliever Airports*			Land acquisition, runways, taxiways, fencing, aircraft aprons, hangars, administration building, access and parking, landing aids

*The need for these two airports is not certain at this time. Recognizing this uncertainty, all development is shown in the 1986 to 1995 time period.



The recommended airport improvement program will cost an estimated \$89.9 million over the next 20 years (in 1975 dollars). Construction at the two air carrier airports will account for over 85 percent of the cost. The total program cost would be reduced by an estimated \$4.6 million if the two reliever airports are not needed.



STSCC

The largest single source of funds for airfield construction is the Airport Development Aid Program (ADAP) administered by the Federal Aviation Administration. The FAA also finances navaid improvements through its Facilities and Equipment (F&E) program.

In addition, the State of North Carolina, through the North Carolina Department of Transportation, will match, on a one-to-one basis, the local share of project costs, depending on availability of funds.

Based on anticipated levels of Federal and State funding, the 20-year airport construction costs (\$89.9 million) would be funded approximately as follows: \$35.3 million from Federal sources (ADAP and F&E); \$4.9 million from state funds; \$47.8 million from local agencies; and \$1.9 million from private sources. It is reasonable to expect that the two air carrier airports will be able to finance their local agency requirements through airport revenues. Local money for construction at smaller airports, in most cases, will have to be funded through general obligation bonds or general funds of the local sponsor.

Implementation of the Airport System Plan will be coordinated by the Piedmont Triad Council of Governments. The plan is to be continually reviewed and re-evaluated, as necessary, with emphasis on updating trends in aviation demand and private airport development, and reviewing the need for reliever airports.

	Construction Costs of Airport Development Needs (Millions of 1975 Dollars)			
	Total	1976-1980	1981-1985	1986-1995
AIR CARRIER AIRPORTS				
Regional Airport	\$67.7	18.6	21.4	27.7
Smith Reynolds Airport	9.6	5.1	3.0	1.5
TOTAL AIR CARRIER	\$77.3	23.7	24.4	29.2
GENERAL AVIATION AIRPORTS				
Asheboro Municipal Airport	\$.4	.1	.2	.1
Burlington Municipal Airport	2.3	1.0	.5	.8
Elkin Municipal Airport	.4	.2	—	.2
Mt. Airy-Surry County Airport	.5	.4	.1	—
Rockingham County Airport	.6	.2	.2	.2
New Lexington-Thomasville Area Airport	3.8	.4	3.1	.3
Potential New Greensboro Area Airport*	2.2	—	—	2.2
Potential New Winston-Salem Area Airport*	2.4	—	—	2.4
TOTAL GENERAL AVIATION	\$12.6	2.3	4.1	6.2
TOTAL REGIONAL SYSTEM	\$89.9	26.0	28.5	35.4

*Need for new airport is uncertain at this time.



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